

IN THE CLAIMS

Amend the claims as indicated below by the markings.

Claims 1-38 (Cancelled)

39.(Currently Amended) A method for compressing and transmitting image raster data of pages, comprising the steps of:
generating a data stream of image raster data from language elements of a graphics language, said data stream containing gray image areas in a form of dither cells whose gray scale values correspond to model dither cells;
dividing said image raster data of each one of pages into tiles of a two-dimensional grid , each of said tiles include a plurality of said image raster data;
identifying ones of said tiles that contains only dither cells, and marking said tiles that contains only dither cells to produce marked tiles;
identifying position data and gray scale values and corresponding model dither cells for said marked tiles as characterizing data for said marked tiles, and
transmitting said image raster data of pages including transmitting said characteristic data of said marked tiles for printing ~~further processing~~ of said image raster data without transmitting image raster data of said marked tiles having gray scale values of a predetermined model dither cell .

40.(Previously Presented) A method as claimed in claim 39, wherein said dither cells include picture elements that are arranged one of rectangularly and quadratically; and wherein said model dither cell with a higher gray scale value at least contains inked picture elements at same positions as said model dither cell with a next-lower gray scale value.

41.(Previously Presented) A method as claimed in claim 40, further comprising the step of:
checking each of said tiles to see whether said tiles contain dither cells of a type of said model dither cell with a lowest gray scale value.

42.(Previously Presented) A method as claimed in claim 41, wherein said step of checking includes checking tiles tile row by tile row; and further comprising the step of investigating a first row of dither cells of each tile before investigating subsequent rows of

dither cells of the tile; and, given a lack of coincidence, the appertaining tile is investigated no further.

43.(Previously Presented) A method as claimed in claim 41, further comprising the step of:
determining said model dither cell with a highest gray scale value that is contained in all dither cells of a tile for the tile that contains dither cells of a type of said model dither cell with said lowest gray scale value, said model dither cell with the highest gray scale value that is contained in all dither cells of the tile being said predetermined model dither cell; and
assigning a gray scale value of said model dither cell to said tile.

44.(Previously Presented) A method as claimed in claim 39, wherein said tiles have a uniform row length.

45.(Previously Presented) A method as claimed in claim 44, wherein said uniform row length corresponds to a bit length of a register of a hardware module with which the present method is implemented.

46.(Previously Presented) A method as claimed in claim 44, wherein said uniform row length amounts to one of 8, 16, 32, 64 and 128 bits or an additive combination thereof.

47.(Previously Presented) A method as claimed in claim 46, further comprising the step of:
comparing using a comparison row that contains only said model dither cells and whose length at least corresponds to said uniform row length of a tile so as to determine whether a tile contains dither cells at least with said lowest gray scale value corresponding to said model dither cell; and
implementing said comparing step tile row by tile row.

48.(Previously Presented) A method as claimed in claim 47, wherein the length of said comparison row amounts to a smallest common multiple of row length of a tile and row length of said dither cell.

49.(Previously Presented) A method as claimed in claim 48, wherein said dither cell has one of an 8x8 and 10x10 picture element matrix.

50.(Previously Presented) A method as claimed in claim 47, further comprising the step of:
using said comparison row with appertaining model dither cells for each gray scale value.

51.(Previously Presented) A method as claimed in claim 39, further comprising the step of:
combining neighboring ones of said tiles having a prescribed gray scale value corresponding to one of said model dither cells to form a polygon;
identifying said characteristic data of said polygon; and
transmitting said characteristic data of said polygon for further processing of said image raster data instead of transmitting raster data of said polygon.

52.(Previously Presented) A method as claimed in claim 51, wherein said transmitting step transmits said characteristic data in compressed form.

53.(Previously Presented) A method as claimed in claim 51, wherein said polygon is one of a square and a rectangle.

54.(Previously Presented) A method as claimed in claim 53, wherein said combining step combines said tiles to form a rectangle having a common minimal gray scale value; and wherein said transmitting step transmits said characteristic data of said rectangle.

55.(Previously Presented) A method as claimed in claim 54, wherein said rectangle contains a sub-rectangle whose tiles have a minimum gray scale value that is higher than a gray scale value of the tiles of said rectangle.

56.(Previously Presented) A method as claimed in claim 54, further comprising the steps of:
producing a list of said rectangles; and
transmitting said characteristic data of said list.

57.(Previously Presented) A method as claimed in claim 56, wherein said transmitting step transmits said characteristic data in compressed form.

58.(Previously Presented) A method as claimed in claim 56, further comprising the steps of:

organizing said list such that rectangles with a descending number of tiles assume a descending rank in the list; and
transmitting only those rectangles from said list whose number of tiles exceeds a predetermined value for further processing.

59.(Previously Presented) A method as claimed in claim 56, further comprising the step of:
limiting a number of rectangles of said list to a predetermined value.

60.(Previously Presented) A method as claimed in claim 54, further comprising the steps of:
expanding boundaries of said rectangles by incorporating into said rectangles any dither cells of one of a row and of a sequence that adjoin a corresponding rectangle and that have a same minimum gray scale value as said dither cells of said corresponding rectangle so as to form expanded rectangles.

61.(Previously Presented) A method as claimed in claims 54, further comprising the steps of:
determining a position of an upper left corner, a height, a width and a gray scale value for each of said rectangles with reference to said pages as said characteristic data; and
transmitting said characteristic data.

62.(Previously Presented) A method as claimed in claim 61, wherein said transmitting step includes transmitting said characteristic data in compressed form.

63.(Previously Presented) A method as claimed in claim 39, further comprising the steps of:
removing said raster image data of said marked tiles from said data stream by subtraction; and
compressing a remaining data stream according to a standardized compression method and
transmitting said remaining image raster data stream.

64.(Previously Presented) A method as claimed in claim 63, wherein said standardized compression method is a FAX G4 compression method.

65.(Previously Presented) A method as claimed in claim 54, further comprising the steps of:

marking said rectangles that contain only dither cells to produce marked rectangles;
removing said raster image data of said marked rectangles from said data stream by
subtraction; and
compressing a remaining image raster data stream according to a standardized compression
method and transmitting said remaining data stream.

66.(Previously Presented) A method as claimed in claim 65, wherein said standardized
compression method is a FAX G4 compression method.

67.(Previously Presented) A method as claimed in claim 39, further comprising the
step of:
transmitting data of said marked tiles according to an SPDS data format.

68.(Previously Presented) A method as claimed in claim 54, further comprising the
step of:
transmitting data of said rectangles according to an SPDS data format.

69.(Previously Presented) A method as claimed in claim 63, further comprising the
step of:
recompiling a transmitted image raster data using an OR function.

70.(Previously Presented) A method as claimed in claim 39, further comprising the
step of:
generating said data stream of said image raster data from language elements of the graphics
language using an RIP module.

71.(Previously Presented) A method as claimed in claim 70, wherein said RIP module
is a POSTSCRIPT converter module.

72.(Previously Presented) A method as claimed in claim 39, further comprising the
step of:
transmitting said raster data as print raster data to a printer.

73.(Previously Presented) A method as claimed in claim 72, wherein said printer is a
high-performance printer.

74.(Previously Presented) A method as claimed in claim 73, wherein said high-performance printer has a printing output of at least 400 DIN A4 pages per minute at 600 dpi.

75.(Previously Presented) A system for compressing and transmitting image raster data, comprising:
an RIP module that generates a data stream of said image raster data page-by-page from language elements of a graphics language, said data stream containing gray image areas in a form of dither cells whose gray scale values correspond to model dither cells;
a two-dimensional grid network by which said image raster data of each page are divided into tiles, each tile including a plurality of image raster data,
an appartaining model dither cell and a gray scale value thereof are identified for each tile that contains only dither cells and this tile is marked; and
apparatus for transmitting characteristic data of the marked tiles for further processing of the image raster data without transmitting raster image data of marked tiles, said characteristic data including information about a position of the respective tile and a respective gray scale value.

76.(Previously Presented) A system as claimed in claim 75, wherein said dither cells contain rectangularly or quadratically arranged picture elements; and
wherein the model dither cell with a higher gray scale value at least contains inked picture elements at a same positions as the model dither cell with a next-lower gray scale value.

77.(Previously Presented) A system as claimed in claims 75, further comprising:
a polygon formed by combining neighboring tiles with predetermined gray scale value corresponding to a model dither cell; and
wherein said apparatus for transmitting transmits characteristic data of said polygon for further processing of the image raster data instead of transmitting characteristic data of individual marked tiles of the polygon.

78.(Previously Presented) A system as claimed in claim 77, wherein said apparatus for transmitting includes an apparatus for transmitting said characteristic data in compressed format.

79.(Previously Presented) A system as claimed in claim 77, wherein said polygon is one of a square and a rectangle.

80.(Currently Amended) A method for compressing and transmitting image raster data of pages, comprising the steps of:
generating a data stream of image raster data page-by-page from language elements of a graphics language, said data stream containing gray picture elements in a form of dither cells whose gray scale values correspond to model dither cells;
determining at least one area that contains only dither cells;
identifying an appertaining model dither cell and a gray scale value of said at least one area and marking said at least one area; and
transmitting characteristic data of the marked area for ~~printing further processing~~ of the image raster data without transmitting the raster image data of said at least one area, said characteristic data contain information about a position of the respective tile and the respective gray scale value.

81.(Previously Presented) A method as claimed in claim 80, wherein said dither cells contain one of rectangularly and quadratically arranged picture elements; and
wherein said model dither cell with a higher gray scale value at least contains inked picture elements at a same positions as said model dither cell with a next-lower gray scale value.

82.(Previously Presented) A method as claimed in claim 81, wherein said dither cells of a rectangular region have a common minimum gray scale value.

83.(Previously Presented) A method as claimed in claim 82, further comprising the steps of:
producing a list of said rectangular regions ; and
transmitting said characteristic data of said rectangular regions of said list.

84.(Previously Presented) A method as claimed in claim 83, wherein said transmitting step transmits said characteristic data in compressed form without transmitting and compressing raster image data of said rectangular regions.

85.(Previously Presented) A computer program product, comprising:
a computer-readable medium on which is stored a computer program having commands in encoded form, said computer program causing a computer to implement the following steps:

generating a data stream of image raster data from language elements of a graphics language, said data stream containing gray image areas in a form of dither cells whose gray scale values correspond to model dither cells;

dividing said image raster data of each one of said pages into tiles of a two-dimensional grid network, each of said tiles include a plurality of said image raster data;

identifying appertaining ones of model dither cells and said gray scale values for each of said tiles that contains only dither cells, and marking said tiles that contains only dither cells to produce marked tiles; and

transmitting characteristic data of said marked tiles for further processing of said image raster data without transmitting raster image data of said marked tiles, said characteristic data containing information about a position of a respective one of said tiles and a respective one of said gray scale values.

86.(Previously Presented) A computer program product, comprising:

a computer-readable medium on which is stored a computer program having commands in encoded form, said computer program causing a computer to implement the following steps:

generating a data stream of image raster data page-by-page from language elements of a graphics language, said data stream containing gray picture elements in a form of dither cells whose gray scale values are defined by model dither cells;

determining at least one area that contains only dither cells;

identifying an appertaining model dither cell and a gray scale value of said at least one area and marking said at least one area; and

transmitting characteristic data of the marked area for further processing of the image raster data without transmitting raster image data of the marked tiles have a predetermined gray scale value, said characteristic data contain information about a position of the respective tile and the respective gray scale value.

87.(Previously Presented) A computer program element stored on a computer readable media and executable on a computer, comprising:

commands in encoded form that cause a computer to implement the following steps:

generating a data stream of image raster data from language elements of a graphics language, said data stream containing gray image areas in a form of dither cells whose gray scale values are determined by model dither cells;

dividing said image raster data of each one of said pages into tiles of a two-dimensional grid network, each of said tiles include a plurality of said image raster data;
identifying appertaining ones of model dither cells and said gray scale values for each of said tiles that contains only dither cells, and marking said tiles that contains only dither cells to produce marked tiles; and
transmitting characteristic data of said marked tiles for further processing of said image raster data without transmitting raster image data of marked cells having characteristic data corresponding to a predetermined model dither cell, said characteristic data containing information about a position of a respective one of said tiles and a respective one of said gray scale values.

88.(Previously Presented) A computer program element as claimed in claim 87, wherein said computer program element is present on a computer-readable medium.

89.(Previously Presented) A computer program element stored on a computer readable media and executable on a computer, comprising:
commands in encoded form that cause a computer to implement the following steps:
generating a data stream of image raster data page-by-page from language elements of a graphics language, said data stream containing gray picture elements in a form of dither cells whose gray scale values are defined by model dither cells;
determining at least one area that contains only dither cells;
identifying an appertaining model dither cell and a gray scale value of said at least one area and marking said at least one area; and
transmitting characteristic data of the marked area for further processing of the image raster data, said characteristic data contain information about a position of the respective tile and the respective gray scale value.

90.(Previously Presented) A computer program element as claimed in claim 89, wherein said computer program element is present on a computer-readable medium.

91.(Currently Amended) A computer-readable medium that contains a computer program, comprising:
the computer program on the computer-readable medium which causes a computer to implement the following steps:

generating a data stream of image raster data from language elements of a graphics language, said data stream containing gray image areas in a form of dither cells whose gray scale values are determined by model dither cells;

dividing said image raster data of each page into tiles of a two-dimensional grid network, each of said tiles include a plurality of said image raster data;

identifying appertaining ones of model dither cells and said gray scale values for each of said tiles that contains only dither cells, and marking said tiles that contains only dither cells to produce marked tiles; and

transmitting characteristic data of said marked tiles for further processing of said image raster data, said characteristic data containing information about a position of a respective one of said tiles and a respective one of said gray scale values.

92.(Previously Presented) A computer-readable medium that contains a computer program, comprising:

the computer program on the computer-readable medium which causes a computer to implement the following steps:

generating a data stream of image raster data page-by-page from language elements of a graphics language, said data stream containing gray picture elements in a form of dither cells whose gray scale values are defined by model dither cells;

determining at least one area that contains only dither cells;

identifying an appertaining model dither cell and a gray scale value of said at least one area and marking said at least one area; and

transmitting characteristic data of the marked area for further processing of the image raster data, said characteristic data contain information about a position of the respective tile and the respective gray scale value.